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A NEW STATION OF GOODYERA OBLONGIFOLIA RAF. IN NORTHERN MAINE

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During botanical surveys conducted for the Superior Mining Company at T12 R8 WELS, Aroostook County, Maine, a new station of giant rattlesnake-plantain (*Goodyera oblongifolia* Raf.) was located. *Goodyera oblongifolia* is listed by the Critical Areas Program (1981) as being rare in Maine, the only northeastern state in which this plant occurs. Its first known discovery within the State was made by Kate Furbish in 1880 at Frenchville, Aroostook County; the following year she made collections from Madawaska and Fort Kent. Prior to the location of the T12 R8 station, it had been found at only ten locations in the state.

On July 20, 1981, a single non-flowering *Goodyera oblongifolia* Raf. was found in a dry wash area under mature sugar maple on an unnamed ridge south of Moose Pond. On July 22, 1981, a colony of approximately one thousand plants was found 1.7 kilometers to the south on a gently sloping, north facing terrace of Bald Mountain at about elevation 350 meters. The colony covers an area of about 0.4 hectare. About five percent of the population was in flower or budded. A dozen large plants were observed with reticulated leaves, suggesting hybridization with *G. tesselata* Lodd. However, reticulation is sometimes seen in plants from the far West where the latter species does not occur. The colony occurs under a dense canopy of mature (probably virgin) white cedar (*Thuja occidentalis* L.), red spruce (*Picea rubens* Sarg.), and balsam fir (*Abies balsamea* (L.) Mill.). An old growth stand of sugar maple (*Acer saccharum* Marsh) occurs at the edge of the site. The cedar, spruce, and fir range in size from 25 to 35.5 inches DBH and are estimated to be 100 to 450 years old. Many fallen logs in various stages of decay create an uneven microtopography. Inverted cones of accumulated

organic debris surround bases of most of the old growth white cedar present. Exposed roots of wind thrown trees exaggerate the soil-level micro-relief in many areas. Slopes adjacent to the terrace vary betwen 10 and 30 degrees. An intermittent stream enters the terrace from the south through a shallow cover. During dry weather the stream disappears under the terrace. During wet weather surface water and artesian groundwater is impounded up to several inches above the surface of the terrace. Such a hydrologic regime is responsible for the creation of the cedar-glade character of the habitat. The herbaceous species found in association include *Lycopodium lucidulum* Michx., *Botrychium virginianum* (L.) Sw., *Dryopteris spinulosa* (O.F. Muell) Watt, *Arisaema atrorubens* (Ait.) Raf., *Smilacina racemosa* (L.) Desf., *Goodyera tesselata* Lodd., *Mitella nuda* L., *Oxalis montana* Raf., *Viola renifolia* Gray, *V. septentrionalis* Greene., *Circaea alpina* L., *Aralia nudicaulis* L., *Cornus canadensis* L., *Moneses uniflora* (L.) Gray, *Pyrola elliptica* Nutt., *P. secunda* L., *Trientalis borealis* Raf., *Linnaea borealis* L. var. *americana* (Forbes) Reh., *Mitchella repens* L., *Galium asprellum* Michx., and *Prenanthes alba* L.

Additional searches for the orchid were conducted during August–October, 1981. As a result of these efforts, a number of additional sites where the plant occurs were located, most of which are on the slopes of Bald Mountain. These additional sites are generally located above the population found on July 22, 1981, on the north slope of Bald Mountain, as well as on the south slope of the mountain.

The most extensive population found outside the immediate vicinity of Bald Mountain occurs on the lower north slope of the ridge located immediately north of the mountain (locally called No Name Ridge). Several hundred plants may occur at this location, which is an ecotone between a poorly drained white cedar swamp and a spruce-fir/northern hardwood stand. A population was also located about 3.2 kilometers NNE of Bald Mountain near Carr Pond Mountain. These plants ocur along a drainage to Moose Pond Stream under a white cedar canopy.

The Bald Mountain station is significant due to the large number of orchids occuring there, as well as being about 55 kilometers south of any previously reported station in Maine. A specimen has been collected and will be deposited in the NEBC Herbarium.

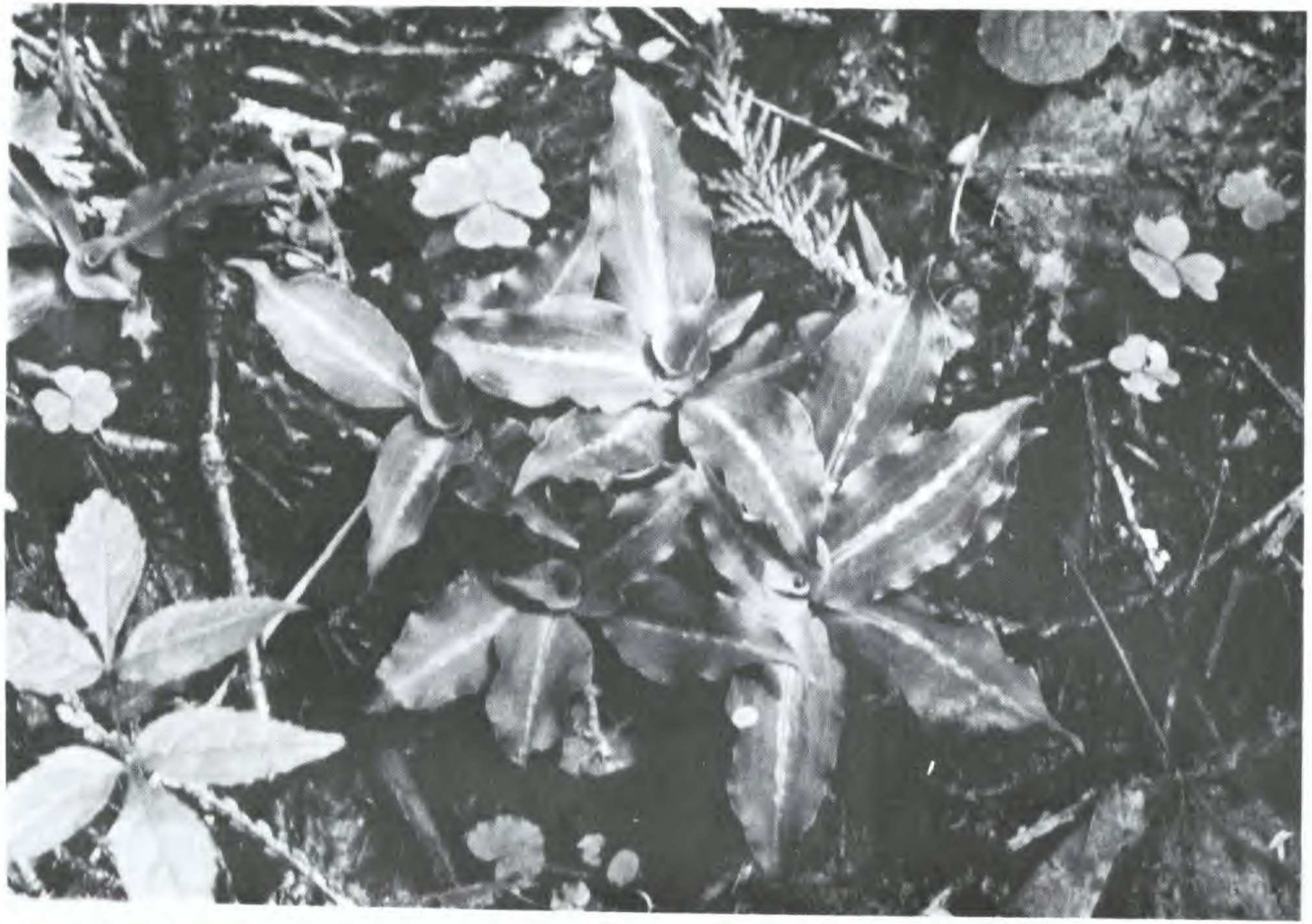

Figure 1. *Goodyera oblongifolia* Raf. Bald Mountain, T12 R5 WELS, Aroostook Co., Maine.

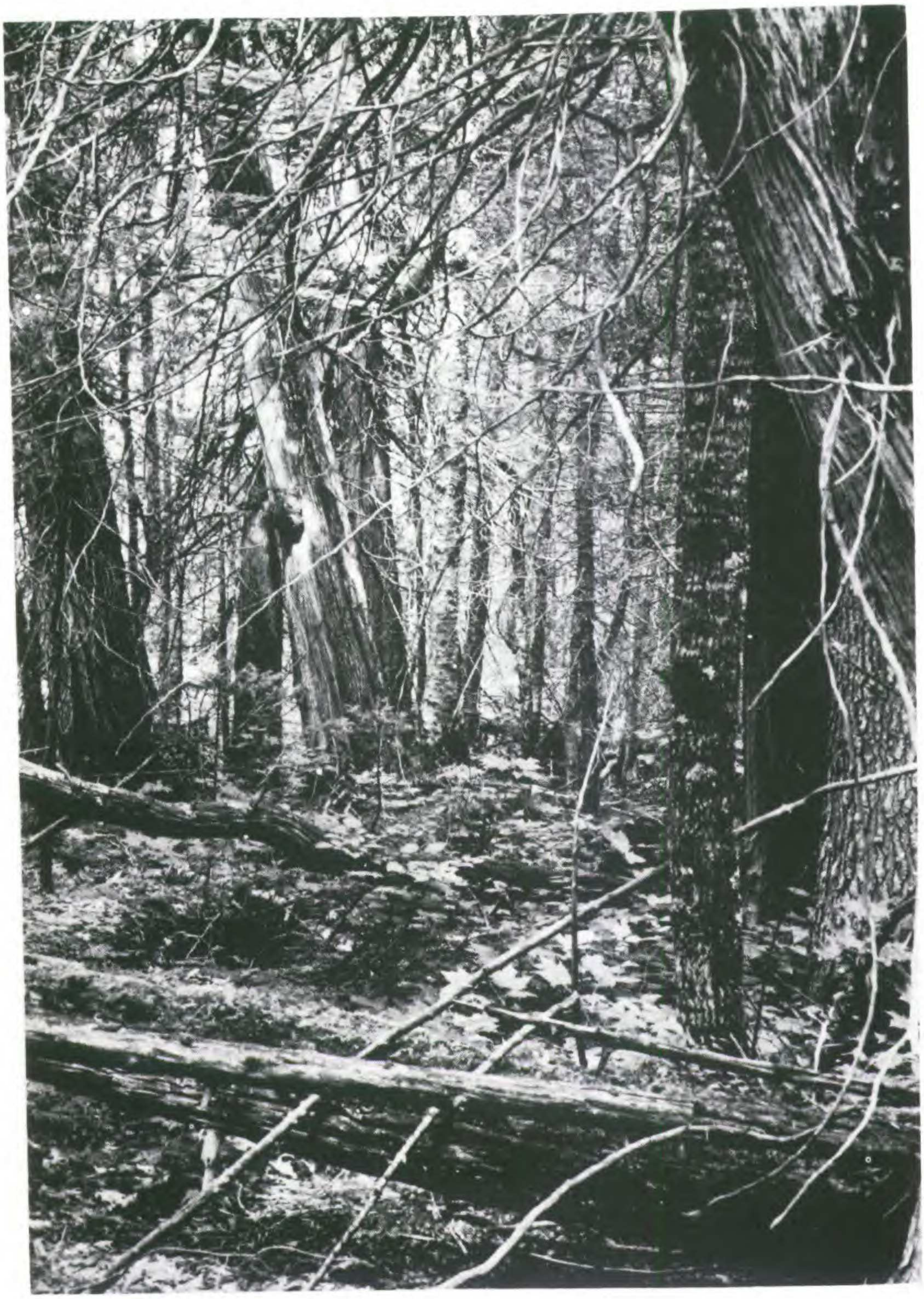

Figure 2. *Thuja* glade on Bald Mountain where *Goodyera oblongifolia* Raf. occurs.

Figure 3. Goodyera oblongifolia Raf. with reticulated leaves.

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